

# Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files - RD-107, Task Order 12

DATE: 30 December 1959

FROM :

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SUBJECT: (Trip Report - Miniature IF Amplifiers, RD-107, T.O. 12, 10 Dec 59)

1. On 10 December 1959 a visit was made to [ ] to monitor the progress made in developing two miniature IF amplifiers; one using single conversion with a crystal filter as the bandpass determining element, and the second employing double conversion with a ceramic resonator as the bandpass determining element. Persons present for discussions were:

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[ ] - OC-E/R+D-EP

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2. [ ] stated that [ ] has just finished making additional batches of ceramic resonators for use in the double conversion IF amplifier. These resonators were turned over to [ ] section for final testing and evaluation and selection for optimum performance previous to assembly in this amplifier.

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3. The crystal filters being developed at [ ] will be delivered to [ ] around the first of the year. [ ] indicated that the construction techniques for fabricating these crystals is well understood and that no difficulty is anticipated in meeting the specified requirements. Upon receipt of these crystals [ ] section will undertake completing the electronic circuitry for the crystal filter.

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4. [ ] then introduced a [ ] who are with the [ ] are interested in a R+D program for developing ceramic filters which would range in frequency from 1 to 30 mc. Such materials as Zicronate would be investigated. The size of such materials used would range from .001 inch thickness on down to .008 inch depending upon the frequency. Two physical forms would be utilized; a disc whose thickness determines the electrical characteristics and whose mode of vibration would be across the thickness, and a rectangular form whose length determines the electrical characteristics with the mode of vibration longitudinal to the length. [ ] indicated that such

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SUBJECT: Trip Report - Miniature IF Amplifiers

an effort would provide a filter having a lower insertion loss, be cheaper, and smaller in size than conventional filters. The writer informed  that the Government, at this time, has no real interest in sponsoring such a development.

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R+D Lab

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